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Agricultural Memorandum No 705

Monthly subdivision of average annual rainfall 1941-1970

L P Smith

The accepted method of monthly subdivision is by use of percentage isomerics. This takes into account the geographical variation of rainfall incidence, but not its variation with height.

Use of the 1941-1970 rainfall averages for the stations appearing in MAFF Technical Bulletin No 24, has led to the derivation of regression equations of the monthly rainfall averages on the annual average over nine geographical regions.

On most occasions the correlation was acceptably high; in general the months with the smallest regression coeffients were those with the least correlation with annual averages. This was most marked in low rainfall areas in summer.

Units used are millimetres; equations are given in the appendix; R = average annual rainfall, 1941-1970.

The average annual rainfall for the new agroclimatic areas are being extracted from the computer grid-point (annual) data. These equations will be used to deduce the monthly averages in the areas indicated.

Any comments or suggestions on this paper should be referred to the author.

Meteorological Office
Bracknell

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APPENDIX

	North East for use on areas 1, 5, 7, 11, 12 & 13	North West for use on areas 2, 3, 6, 8, 9 & 10
JAN	0.105R - 9.7	0.117R -24.9
FEB	0.084R - 7.3	0.08R -13.7
MAR	0.067R - 4.2	0.068R -10.2
APR	0.061R + 2.9	0.061R + 1.6
MAY	0.058R +12.3	0.05R +16.3
JUN	0.05R +14.4	0.049R +18.1
JUL	0.074R +11.0	0.055R +25.4
AUG	0.097R +13.0	0.074R +28.7
SEP	0.11R -15.0	0.103R + 1.5
OCT	0.097R -11.0	0.104R - 4.1
NOV	0.095R + 6.8	0.113R -12.8
DEC	0.102R -13.4	0.127R -25.8

	East Midlands for use on areas 15B, 16, 17, 22 & 27	West Midlands for use on areas 14, 15A, 18, 19, 20, 21, 25, 26 & 30
JAN	0.113R -15.9	0.093R - 3.3
FEB	0.089R -13.0	0.084R -12.5
MAR	0.067R + 1.6	0.06R + 4.8
APR	0.066R + 1.2	0.071R - 3.2
MAY	0.059R +15.6	0.056R +22.0
JUN	0.036R +26.2	0.076R - 2.4
JUL	0.049R +25.4	0.105R -15.0
AUG	0.06R +28.0	0.07R +24.2
SEP	0.104R -12.3	0.088R - 1.0
OCT	0.111R -18.3	0.093R - 6.8
NOV	0.112R - 7.3	0.098R + 2.8
DEC	0.134R -31.2	0.106R - 9.5

	East for use in areas 23, 24, 28, 29 & 33	South East for use in areas 31, 32, 34, 37, 38 & 39
JAN	0.136R -30.0	0.14R -33.9
FEB	0.137R -40.6	0.101R -21.2
MAR	0.054R + 6.6	0.072R - 9.1
APR	0.068R - 2.1	0.05R + 9.4
MAY	0.034R +24.7	0.041R +21.9
JUN	0.037R +25.9	0.025R +29.4
JUL	0.001R +55.0	0.019R +43.9
AUG	0.089R + 9.1	0.063R +21.4
SEP	0.069R + 9.0	0.075R + 8.9
OCT	0.098R - 6.9	0.108R - 9.1
NOV	0.163R -35.4	0.146R -22.4
DEC	0.113R -15.4	0.154R -39.1

	Mid West for use in areas 35, 36, 45	Far West for use in areas 40, 41, 42, 43 & 44
JAN	0.14R -34.0	0.135R -28.0
FEB	0.097R -24.4	0.094R -19.4
MAR	0.089R -18.6	0.106R -32.6
APR	0.045R +13.2	0.046R +11.8
MAY	0.033R +35.4	0.058R +11.5
JUN	0.05R + 9.5	0.045R +10.1
JUL	0.015R +42.0	0.042R +28.8
AUG	0.049R +34.3	0.055R +29.0
SEP	0.118R -21.0	0.071R +14.0
OCT	0.115R -11.5	0.098R - 2.6
NOV	0.108R + 3.0	0.114R - 1.4
DEC	0.14R -27.8	0.142R -27.0

	Wales for use in areas 25b 47, 48, 49, 50, 51 & 52
JAN	0.113R -12.0
FEB	0.063R + 9.7
MAR	0.065R + 0.5
APR	0.06R + 2.1
MAY	0.047R +25.0
JUN	0.057R + 4.0
JUL	0.053R +18.1
AUG	0.083R + 5.0
SEP	0.103R -10.7
OCT	0.115R -19.2
NOV	0.114R - 4.4
DEC	0.125R -18.2